
HURRICANE EMERGENCY RESPONSE PLAN

PURPOSE

The purpose of this plan is to provide the framework to provide for an effective and coordinated response on the part of the State EOC, state agencies, coastal localities, and potential host localities in response to a tropical cyclone making, or threatening to make, landfall on the Virginia coast, especially if an evacuation of predetermined storm surge inundation areas is required in order to protect life and minimize damage to property.

AUTHORITY

This plan has been prepared in consonance with relevant plans and programs of the federal and state governments. It is issued under the authority of and in accordance with the provisions of the Commonwealth of Virginia Emergency Services and Disaster Laws of 2000, Title 44, Chapters 3.2 through 3.5, Code of Virginia (as amended).

SITUATION AND ASSUMPTIONS

- A. Virginia is susceptible to all levels of tropical systems, from tropical depressions to severe Category 5 hurricanes. These tropical systems produce three major hazards: storm surge, high winds including possible tornadoes, and rainfall.
- B. The vulnerable population at risk and which should be evacuated in the event of a worst-case or Category 4 hurricane is defined, for planning purposes, as those persons along the coast in the pre-identified storm surge inundation areas and those in mobile homes in coastal localities who may be at risk by hurricane force winds. The total number of these persons potentially at risk from life-threatening storm effects ranges from approximately 600,000 to 700,000, depending on tourist occupancy. Storm effects could also, of course, affect other people further inland due to high winds and localized heavy rains resulting in flash flooding. These secondary storm effects, however, are much less predictable. For additional information, see Appendix 1: Hurricane Hazards.
- C. Pre-disaster warning time will vary; however, the National Weather Service will detect a hurricane in time for effective action to be taken in accordance with the provisions of this plan. The Virginia Emergency Operations Center (VEOC) and the Joint Field Office (JFO) will continue to be operable despite the effects of a hurricane. Hurricane effects on the Commonwealth will be approximately as described in the 1992 Virginia Hurricane Evacuation Study. Federal agencies and organizations will function in accordance with the National Response Plan. Local and state agencies and organizations will carry out all-hazard decisions and functions as required by the COVEOP, Volume I: Basic Plan and this hurricane-specific annex.

ORGANIZATION

- A. The State Coordinator, Virginia Department of Emergency Management (VDEM), is responsible for maintaining this plan. The Virginia Department of Transportation (VDOT) will develop and maintain a sub plan for hurricane evacuation traffic control. It is the responsibility of each local government to develop and maintain emergency response plans and procedures to protect public safety and property. Coastal localities should develop and regularly test and exercise hurricane-specific plans and procedures.
- B. The Governor, acting through the State Coordinator, will coordinate statewide emergency operations and will coordinate with affected coastal jurisdictions to effect evacuation and other protective actions as necessary.
- C. The VEOC will maintain a storm assessment capability, based on the "decision arc" methodology (Annex A, Attachment 2) presented in the 1992 Hurricane Evacuation Study. This assessment methodology utilizes the storm tracking computer program "HURREVAC 2000", which was developed for FEMA for use by the local emergency management jurisdictions to assist with evacuation decisions. The VEOC will be prepared to assist local jurisdictions in deciding when or if evacuation of their localities is prudent based on storm assessment.
- D. The Virginia Department of Transportation (VDOT) has an established traffic control center in Virginia Beach known as the Smart Traffic Center. It will be operated by VDOT personnel, but may include liaison personnel from VDEM and other state/local agencies, as required. Its primary task will be to facilitate traffic movement in the event of a large-scale evacuation from the coastal areas. Close and direct coordination with local jurisdictions will be maintained (see Annex C).
- E. Reporting, warning, notification, and communications will be in accordance with Attachment 1 to Annex A of this plan.
- F. A Joint Information Center (JIC) will be established. The JIC will be staffed and operated in accordance with Annex E of this plan.
- G. The state government organizational staff for emergency operations consists of personnel from the Department of Military Affairs (DMA), Department of Transportation (VDOT), Department of State Police (VSP), VDEM, the American Red Cross, and other state and private organizations as needed. On behalf of the Governor, the State Coordinator or his designee, will coordinate operations at the state level. State and local plans anticipate that the state role will be to assist and to supplement local preparedness and response activities, primarily in response to local requests for assistance. It should be noted that the imminence

and severity of the threat may require, at the Governor's discretion, a more direct and anticipatory state response that may include establishment of an advance state emergency response contingent similar to a federal Emergency Response Team (ERT).

- H. Virginia has grouped and identified the state emergency response agencies into 15 Emergency Support Functions (ESFs) that parallel federal ESFs (see Appendix 5). This grouping will permit functional operational response by state agencies to a large-scale or catastrophic event with the least possible disconnects with similar federal activities. The State EOC will be responsible for the coordination of the state effort. Virginia state agencies will, upon notification by the State EOC, organize into appropriate ESFs under the State Coordinating Officer (SCO) or his deputy.
- I. Upon identification of a Joint Field Office (JFO) by federal/state authorities, state agency representatives, together with the SCO and the state JIC, will transition to the JFO. Once in the JFO, each state ESF representative will work in conjunction with their federal counterpart for the duration of the disaster. Likewise, the state JIC will become part of the federal JIC. Local authorities will be encouraged to organize in a similar manner. The fundamental aim of this concept of operation is that federal, state, and local authorities should operate as a team aimed at responding to and recovering from a disaster. To facilitate this interaction, it is anticipated that federal and state representatives will be colocated in the JFO, to the maximum extent feasible.

CONCEPT OF OPERATIONS

- A. This plan establishes, within the general guidance of the COVEOP, the hurricane-specific concepts and policies under which all elements of state government and its political subdivisions will operate; provides for integration of the total resources of the government and the private sector; assigns responsibilities to elements of government, quasi-government, and private entities; and sets forth standard concepts and procedures whereby all local governments can develop compatible hurricane plans and SOPs.
- B. When a hurricane strikes, help may not be immediately available from the state or federal government. Local governments should, therefore, be prepared to bear the initial responsibility for hurricane response and relief as well as preparation for the arrival of a hurricane. Local plans and procedures prepared should be developed and maintained to provide for the safety and welfare of citizens until such time as outside assistance is available.
- C. An effective response to a hurricane emergency is dependent on the development of plans, programs, and procedures, which will provide for (1) the rapid mobilization and effective utilization of the resources and capabilities of local government and the private sector within the affected area, (2) the effective use of support from the other political subdivisions of the

state through Statewide Mutual Aid (SMA) as well as out of state sources, and (3) responsive and effective state and federal emergency and disaster relief assistance.

- D. The mission of Virginia State Government, in coordination with local governments, is to plan and prepare for a major hurricane, so as to minimize casualties and property damage and to restore conditions to normal as soon as possible after such a storm.
- E. The mission of local government is to develop plans and prepare for emergency operations related to a hurricane in conformity with this plan, the COVEOP, and the Commonwealth of Virginia Emergency Services and Disaster Laws. All public officials have a legal responsibility and moral duty to ensure that their jurisdictions are prepared, to the best of their abilities, to cope with any potential disaster. Therefore, the development of emergency response capabilities and the direction and control of local emergency operations when a hurricane strikes are the direct responsibility of local governments.
- F. A general action checklist is included in each functional annex to this plan. Each reflects the common framework of terminology, periods of operation, and protective actions needed for a coordinated federal/state/local response. The VEOC and coastal localities should, using this model, develop more detailed checklists for each function as needed, answering the key questions of who, what, when, and where. These checklists will serve as a guide for actions to be taken as a tropical cyclone approaches. State agencies may also need to prepare such checklists.
- G. In response to a potential major disaster, DHS/FEMA and other federal agencies may, in accordance with the National Response Plan, pre-deploy personnel in order to be in position to provide an immediate disaster response, if needed.
- H. This plan is, and those supporting plans developed by state agencies, should be in conformance with the National Response Plan. This conformance should address the procedures by which the state agency will interface with the Federal Government when that government is mobilizing resources and conducting activities to augment state and local response efforts. Supporting state agency plans should:
 - 1. Identify how each Emergency Support Function (ESF) will be accomplished, designate the primary authority, and designate the support agencies.
 - 2. Identify personnel to represent each appropriate ESF in the VEOC. These personnel must be:
 - a. Knowledgeable in the field of the ESF.
 - b. Given authority to make appropriate decisions and issue instructions in support of the mission of the ESF.

- c. Be trained in EOC/JFO operations.
 - d. Be assigned in sufficient numbers to provide for 24-hours-a-day operation for at least two weeks.
- I. Hurricane preparedness should be undertaken in a systematic, time-phased way. This and other pertinent publications should be periodically reviewed and updated, as necessary; personnel assignments to essential tasks should be updated; and required training (e.g., HURREVAC, SLOSH, weather terminology review) should be accomplished. Conditions of readiness of operational and decision-making organizations should be systemized. The following system is recommended as the guide for state agencies and local jurisdictions. Hurricane response plans should include detailed action checklists for each local emergency service organization and for each readiness condition, as appropriate.

Readiness Condition 5. Normal operations. Condition assumed when not in higher condition of readiness. Monitor weather systems for possible development of tropical systems. Maintain training and exercise emergency communications periodically.

Readiness Condition 4. A tropical weather system has developed which has the potential to impact the Commonwealth within 120 hours (D-five to D-three days). Complete any possible actions not accomplished from Readiness Condition 5. Begin preparatory actions such as identifying stocks of material, pre-warning emergency service personnel, etc. Continue to track the weather system. Establish contact with appropriate agencies and jurisdictions and prepare to receive DHS/FEMA staff.

Readiness Condition 3. Tropical storm force winds from a tropical weather system may impact the Commonwealth within 72 hours (D-3 to D-2 days). Complete all actions not accomplished from Readiness Condition 4. Coordinate traffic issues and determine potential for lane reversal evacuation from coastal Virginia and coordinate the level of local evacuations that may be required. Coordinate all activities with host localities in readiness of sheltering requirements. All appropriate agencies and organizations should continue to be informed of the situation.

Readiness Condition 2. Tropical storm force winds may impact the Commonwealth within 48 hours (D-2 days to D-1 day). Complete all actions not accomplished from Readiness Condition 3. Accelerate all preparedness actions for emergency and vital affected services. Maintain knowledge of storm track, size, probabilities, and decision point times. Identify worst-case decision points for evacuation and provide information to agencies and jurisdictions. Recommend agencies and jurisdictions take necessary actions in order to cope with the threat from the approaching storm and commencement of evacuation at or before decision point.

Readiness Condition 1. Tropical storm force winds may impact the Commonwealth within 24 hours (D-1 day). Complete all actions not performed from Readiness Condition 2. Evacuation decisions should have been made and evacuations should be completed prior to the arrival of tropical storm force winds. Place emergency personnel and resources into position for operations. Condition 1 should be maintained through the storm event and until the threat has receded as appropriate. Following the storm event, response and recovery operations should be undertaken as outlined elsewhere in this annex and in the State EOP, Volume 1: Basic Plan and Volume: 2: Recovery. Readiness conditions should be adjusted as necessary and appropriate.

Landfall. Period between the arrival and final departure of tropical storm force winds.

Emergency Relief Phase. Life-saving operations and the restoration of essential services. Usually ends when it is safe to allow residents to return to their homes.

- J. Each state agency should designate an emergency management coordinator to develop and maintain an appropriate disaster preparedness, response, and recovery program in accordance with emergency duties and responsibilities as assigned in the State EOP. Some state agency coordinators are responsible for maintaining their respective part(s) of the State EOP.
- K. Each city and county is required by the Virginia Emergency Services and Disaster Laws of 2000 to designate an emergency management director who, in turn, usually employs a coordinator and staff as needed to develop and maintain an appropriate local disaster preparedness, response, and recovery program.
- L. The primary hazard to be addressed by coastal localities is the impact of a tropical cyclone with emphasis on, a major hurricane (Category 3, 4 or 5) making landfall. Coastal localities should develop and maintain a current hurricane response plan, which should be exercised and updated annually. This plan serves to supplement the required local Emergency Operations Plan (EOP) and must be compatible with state and federal disaster response plans and procedures.
- M. Local governments should analyze probable effects of a hurricane strike on their ability to carry out routine functions of government, such as law enforcement, fire protection, water and wastewater service, etc. Shortfalls identified by this analysis should be identified and the extent and type of backup manpower and equipment should be predetermined so that they can be identified in advance and brought in as needed. (Examples: (1) generators to keep water and sewer lines working and (2) security personnel to deny access to damaged areas until it is safe for residents to return.)
- N. Local governments should take appropriate action to declare a local emergency as authorized by the Code of Virginia, Section 44-146.21, et seq., in a timely manner so as to

implement emergency operations to protect the health and safety of persons and property. This authority confers essentially the same authority locally upon a governing body, as does the declaration of a “state of emergency” from the Governor. When supported by local ordinances, this local authority includes the authority to declare a curfew, among other stated powers.

O. The American Red Cross, will:

1. Assist local Red Cross chapters in coastal jurisdictions in the development of a disaster services plan that addresses mass care (sheltering and feeding), coordination of voluntary disaster relief agencies, and coordination with local governments.
2. Assist local Red Cross chapters in localities adjacent to primary evacuation routes with the development of plans and procedures to operate public shelters.
3. Encourage local Red Cross chapters to develop written agreements with local governments that address mass care for persons displaced either temporarily or long term from their homes due to a major hurricane.
4. Provide shelter management training through local Red Cross chapters. Provide crisis training of shelter management staffs as needed.
5. Assist with the coordination of shelter operations in coastal and host jurisdictions; provide shelter managers and staff in accordance with local written agreements; and provide administrative support for all local shelters operating under Red Cross administrative policies.
6. Perform appropriate tasks to support the following functions: Mass Care (ESF #6), Emergency Management (ESF #5), Health and Medical Services (ESF #8), and Agriculture and Natural Resources (ESF #11). Reference the National Response Plan and the COVEOP, Volume 1: Basic Plan.

P. This plan is effective for training, pre-emergency preparedness, or execution upon receipt. It is activated upon the declaration of a “state of emergency” by the Governor for a major coastal hurricane or upon notification of same made by the State Coordinator.

Q. State support to local governments and coordination of emergency operations will be accomplished through the VEOC by the State Coordinator, assisted by selected state agencies. The provision of state assistance does not replace local operational, legal, or financial responsibility and authority for disaster management.

- R. Those officials responsible for implementing this plan are responsible for thoroughly familiarizing themselves and their personnel with its contents and for developing effective procedures for carrying out assigned tasks and functions. Localities or state agencies preparing plans or SOPs in support of this plan should forward copies to the State Coordinator for review and reference to assure appropriateness and compatibility. The State Coordinator is responsible for maintaining and updating this plan. Responsible officials at all levels of government should recommend improvements and changes, as they deem appropriate to the State Coordinator.

DEFINITIONS

- A. Advisory - A method for disseminating hurricane and storm data to the public every six hours. Small craft warnings are released as necessary.
- B. Bulletin - A public-oriented message released from the National Hurricane Center at a time other than when scheduled advisories are required. The format is somewhat variable, but will normally include a recap of warnings already in effect and salient information of a nature similar to the scheduled advisories.
- C. Coastal Flood Statement - A public information message released by a regional and/or local Weather Service facility outlining/recapping/amplifying, in plain text, a given coastal flooding situation. Will normally be issued periodically during a tropical storm or hurricane event, addressing the specific surge or onset threat from high water levels. May recap watches/warnings in effect. May or may not include flood watch/warning information stemming from storm-associated rainfall.
- D. Designated Hurricane Shelter – Facility designated by a locality for use as a shelter for people whose homes are threatened by storm surge flooding or whose mobile homes are subject to hurricane force winds. A shelter provides basic support services.
- E. Decision Arc – A methodology used by emergency service organizations in determining the timing of needed actions as a hurricane threat approaches their area. (See Annex A).
- F. Drill - An activity that tests, develops, or maintains skills in a single emergency response procedure, usually involving hands-on activity, activation of emergency communications, and use of equipment that would be used in a real emergency.
- G. Eastern Daylight Time (EDT)/Eastern Daylight Savings Time (EDST)/"Quebec" Time/12340 - Artificial time zone made to adjust human affairs against the sun's passage to achieve longer evening sun. Four hours "less" than Zulu on the clock. (When it's noon in London, it's 8 a.m. in Richmond). (Z-4=Q) (Q+4=Z) Normally encompasses the hurricane season.

- H. Eastern Standard Time (EST)/"Romeo" Time/1234R - Name for the normal (sun-correct) time zone encompassing the U. S. East Coast. Five hours "less" than Zulu on the clock (When it's noon in London, it's 7 a.m. in Richmond). (Z-5=R) (R+5=Z)
- I. Evacuation Route - Road or highway designated by the Virginia Department of Transportation as a primary route for motorists evacuating from the threat of a hurricane. The routes are marked with signs that indicated "Hurricane Evacuation Route".
- J. Evacuation Window - The time between the release of an evacuation advisory and when areas to be evacuated must be cleared.
- K. Exercise - An activity designed to promote emergency preparedness; test or evaluate emergency operations, policies, plans, procedures, or facilities; train personnel in emergency duties; and demonstrate operational capability.
- L. Federal Emergency Response Team (ERT) - (See National Response Plan or State EOP, Volume 1: Basic Plan).
- M. Gale Force Winds – Sustained winds of 34 knots (39 mph) or higher.
- N. Gale Warning - A condition "set" for a geographic area, and message released, that gale force winds (sustained 39-54 mph/34-47 kts) are forecast to occur. Note: separate gale warnings will not normally be released in conjunction with/in advance of a tropical storm or hurricane event. They may be locally prepared for areas on the periphery of such storms. They are normally seen as separate events associated with normal weather patterns. The boundary of gale force winds is one of the contours provided in the marine advisory, and their onset is used in the hurricane evacuation study as the closing point for evacuation; the end of the "clearance time" window.
- O. Greenwich Mean/Meridian Time (GMT)/Universal Coordinated Time (UCT)/"Zulu" Time/1234Z - International reference time, the solar time in the 15-degree longitude zone centered upon Greenwich Meridian in England. Normally referenced in communications, aviation, and weather so as to provide a common reference. All time zones are identified with a letter, and this zone's letter is "Z"; "Zulu" is the International Phonetic Alphabet.
- P. Host Locality – County, city or town located along one or more designated evacuation routes that has agreed to provide public shelter for evacuation from coastal localities in the event of a major hurricane.
- Q. Hurricane - An intense storm with pronounced rotary circulation and constant wind speed of 74 mph/64 kts or more; hurricanes are normally named to facilitate tracking and information on their locations. (Pacific hurricanes may be called "typhoons.")

- R. Hurricane Advisory - Public and public official-oriented position/forecast advisory. Issued by the National Hurricane Center, Miami, through the National Weather Service, Miami, Florida. Normally commences upon the "numbering" of a tropical depression ("TD# X") or hurricane. Sequentially numbered as issued. Note: These may precede tropical storm/hurricane watches and warnings by a significant margin. Scheduled timing will be 0900Z, 1500Z, 2100Z, and 0300Z. These advisories are public oriented, contain plain-text information (speed in mph/times local), and will normally have appended to them the "wind probabilities" table within 120 hours of landfall.
- S. Hurricane Marine Advisory - Marine interest/public official-oriented advisory made from the same models and runs as the public advisory. Contains detailed positional and wind velocity data, including movement and forecast positions. Sequentially numbered to match the advisories. Released immediately following their paired advisories. Probabilities table may also be appended. Used as the input data for the "Decision Arc" HURREVAC process. Speeds in knots/times Zulu.
- T. Hurricane Hazard Mitigation Plan - A document that is adopted by state and local governments and contains the policies, programs, strategies, and action(s) necessary to protect property from damages caused by hurricanes.
- U. Hurricane Preparedness Program – DHS/FEMA's program to foster hurricane preparedness in high-risk, high-population areas by providing financial and technical assistance to state and local officials in conducting hurricane preparedness studies.
- V. Hurricane Warning - A condition "set", and public- and official-oriented message released, once hurricane conditions are forecast to exist within 24 hours for the geographic area addressed in the warning. Might be issued prior to the 24-hour window, if severity and forecast confidence warrant.
- W. Hurricane Watch - A condition "set", and public- and official-oriented message released, once hurricane conditions are forecast to exist within 36 to 24 hours for the geographic area addressed in the watch. May be issued prior to the 36-24 hour window.
- X. National Incident Management System (NIMS) – DHS/FEMA's strategy to implement comprehensive emergency management, which capitalizes on commonality of functions to be performed (warning, communications, evacuation, sheltering, mass care, etc.), regardless of the hazard, and brings a greater economy of effort to the emergency preparedness posture.
- Y. Intermediate Advisory - A scheduled advisory issued at 3-hour or 2-hour intervals between the four main daily advisories/marine advisories, commencing when watches or warnings have been issued associated with the subject storm. Once watches/warnings are in effect, 3-hour intervals are in effect; 2-hour intervals are issued once the storm center or hurricane eye is being "tracked" by land-based weather radar.

- Z. Joint Information Center - Location where public information representatives of several agencies/localities are gathered to coordinate important information.
- aa. Knots (KTS) - A knot is one nautical mile per hour. (A nautical mile = 1.15 statute miles.).
Conversions: sm = nm x 1.15; nm = 0.87 x sm; mph = 1.15 x kts; kts = mph x 0.87.
- bb. Latitude - Surface measurement of the earth from the equator to the pole (set = 90 degrees); expressed in degrees, minutes, and seconds or degrees, minutes and tenths of minutes (e.g., 37 deg 45 min 30 sec = 37 deg 45.5 min. Handy measure on charts - one minute of latitude (not longitude) equals one nautical mile.
- cc. Local Emergency Coordinator - The individual at the local level of government who is in charge at the office having primary responsibility for all matters pertaining to emergency management. Jurisdictions use various titles (such as civil defense director/coordinator, chief of emergency services, director of the disaster preparedness office, etc.) to describe this individual's job and responsibilities.
- dd. Local Statement - A public information message released by a regional and/or local NWS Weather Forecast Office outlining/amplifying, in plain text, a given coastal flooding situation. Will normally be issued periodically during a tropical storm or hurricane event, addressing the specific surge or onset threat from high water levels. May recap watches/warnings in effect. May or may not included flood watch/warning information stemming from storm-associated rainfall.
- ee. Longitude - Surface measurement of earth measured from Greenwich Meridian east and west for 180 degrees. Also expressed in degrees, minutes and seconds or degrees, minutes, and tenths of minutes. VEOC is at 077 deg, 31 min, 32 sec West or 77-31.5W. Distance to degree conversion is a spherical variable and there is no easy conversion.
- ff. Major Hurricane - Category 3, 4, or 5 hurricane. A Category 4 storm is generally considered the worst-case scenario for latitudes as far north as Virginia.
- gg. Mitigation Measure - Any action, structure, or program that reduces the risk or vulnerability of the hazard.
- hh. Population Preparedness Project - The initial effort of hurricane evacuation (preparedness) study that provides for hurricane evacuation and other population preparedness elements that are to be integrated into state and local emergency operations plans (EOPs).
- ii. Probabilities for Winds - A tabular listing of wind probabilities that the hurricane effects will impact the specified locations within a given window, expressed in percentages. The inclusive windows run out in increments to 120 hours. Studies of one's own location as well as adjacent/surrounding locales can aid in the "go - no go" evacuation decision,

especially if the pattern can be discerned as it shifts through the time windows. Given the mathematical inaccuracies inherent in the models, probabilities may be low for any given locale. These ranges must be kept in mind when the decision-maker performs his evaluations.

- jj. Refuge of Last Resort – A facility that may be identified by the locality (at-risk or host) that can provide temporary relief from severe weather. A refuge of last resort is not intended to be designated as a “shelter” by the locality and may not be able to provide basic services such as food, accommodations for sleeping, first aid or security. It should be considered only as a probable safe haven for evacuees who are unable to clear the area until the storm passes.
- kk. Risk Locality – The 19 coastal localities (cities, counties and town) identified in the “1992 Virginia Hurricane Evacuation Study” as subject to a storm surge in the event of a major hurricane and later amended to add Isle of Wight and Surry County with specific storm surge data still underdevelopment at the time of this Annex preparation.
- ll. Saffir/Simpson Scale - A scale developed by Herbert Saffir, Dade County, Florida, consulting engineer, and Dr. Robert H. Simpson, former National Hurricane Center director, that projects potential hurricane damage assessments from five hurricane intensities: Category Number 1, the least damaging, through Category Number 5, the most severe storm (see Virginia Hurricane Evacuation Study or Appendix 2 to this plan).
- mm. Shelter (American Red Cross) – A traditional shelter, either in a coastal locality or further inland, for people displaced by a major hurricane. May provide cots, blankets, food, comfort supplies.
- nn. SLOSH - The National Weather Service's Sea, Lake, and Overland Surges from Hurricanes (SLOSH) numerical storm surge prediction model used in basins that have irregular coastlines and contain large bays or estuaries (see Virginia Hurricane Evacuation Study).
- oo. Special Advisory - An unscheduled public- and official-oriented advisory issued when, in the judgment of the Hurricane Center forecasters, a significant deviation from forecasted track/speed/intensity has occurred, resulting in change of timing, intensity, or areas affected such that the status of watches and warnings may be impacted. Will normally be tagged as a “bulletin” so as to emphasize urgency/need for rapid dissemination and attention.
- pp. Storm Scenario - Refers to the “Virginia Hurricane Evacuation Study,” in which there are groups of evacuation zones that will be threatened by the predicted storm surge from specific hurricane intensity categories. For localities with three storm scenarios (A, B, and C), scenario C includes all evacuation zones and is used for a Category 4 storm; scenarios B and A delineate smaller areas and are used for lesser storms. For localities with only one storm scenario (A), it will be used for all storms requiring evacuation.

- qq. Storm Surge - The increase in height of the surface of the sea caused by the forces of the storm and the slope of the continental shelf that causes the water level to rise as it approaches land.
- rr. Storm Warning - A condition "set" for a geographic area, and message released, warning that storm force winds (sustained 55-73 mph/48-63 kts) are forecast to occur. Generally associated with tropical storm activity, on the periphery. May or may not be issued in advance of an expected hurricane event; unlikely to be separately issued for a tropical storm event. Normally seen in a separate event, such as a Nor'easter.
- ss. Tornado Warning - Tornado detected in your area. TAKE SHELTER.
- tt. Tornado Watch - Tornadoes and severe thunderstorms are possible in your area.
- uu. Tropical Disturbance - A moving area of thunderstorms in the tropics.
- vv. Tropical Storm Force Winds – Sustained wind speeds of 39 mph (34 knots) or higher.
- ww. Tropical Storm Warning - A condition "set," and public- and official-oriented message released, once tropical storm conditions are forecast to exist within 24 hours for the geographic area addressed in the warning. Might be issued prior to the 24-hour window, if severity and forecast confidence warrant.
- xx. Tropical Storm Watch – A condition "set," and public – and official – oriented message released, once tropical storm conditions are forecast to exist within 36-48 hours for the geographic area addressed in the watch. May be issued prior to the 36-24 hour window.

REFERENCES

- A. Commonwealth of Virginia Emergency Operations Plan (COVEOP). Volume I: Basic Plan, Virginia Department of Emergency Management, April 2004.
- B. Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended.
- C. National Response Plan, Department of Homeland Security, December 2004.
- D. Virginia Hurricane Evacuation Study, FEMA and U.S. Army Corps of Engineers, April 1992.
- E. Department of Homeland Security, Federal emergency Management Agency Guidance for the 2006 Hurricane Season.

- F. The Hampton Roads Hurricane Traffic Control Plan, Virginia Department of Transportation (2006).
- G. Local Emergency Operations Plans for all of Virginia's coastal localities: Accomack County, Chesapeake City, Chincoteague Town, Gloucester County, Hampton City, Isle of Wight County, Lancaster County, Mathews County, Middlesex County, Surry County, Newport News City, Norfolk City, Northampton County, Northumberland County, Poquoson City, Portsmouth City, Richmond County, Suffolk City, Virginia Beach City, Westmoreland County, and York County.